

### REMARKS/ARGUMENTS

Applicants would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action and amended as necessary to more clearly and particularly describe the subject matter which applicants regard as the invention.

Claims 6, 7, 11-13 and 20-26 are pending in this application. Claims 6, 7 and 23-26 have been amended.

Claims 6, 7 and 23-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in view of Bhatt et al. (U.S. patent number 5,517,213) further in view of Ushirokawa et al. (U.S. patent number 5,228,058). Claims 6 and 7 recite in part, "tap coefficient monitoring unit which monitors a tap coefficient of said equalizing filter unit, and changes the tap arrangement of said equalizing filter unit so as to restart... equalizing..., depending upon a coefficient change state of the tap coefficient used while the reception signal is equalized."

Bhatt discloses a blind equalization process 200, which, at step 218, is reinitiated if the tap coefficients have not converged. An adaptive equalization process starts (Fig. 2, step 220) only after the tap coefficients have converged. In contrast, claims 6 and 7 require that the monitoring unit restart equalizing depending upon a coefficient change state of the tap coefficient used *while the reception signal is equalized*. The reinitiating of the blind equalization process 200 at step 218 as taught by Bhatt is not performed *while the reception signal is equalized*. Rather, if the tap coefficients are not converged at step 218, the process does not proceed to step 220, where the signal is equalized, but instead the blind equalization process 200 is restarted. Thus, the blind equalization process 200 taught by Bhatt relates to setting up tap coefficients of a filter *prior* to starting the adaptive equalization process 220. Therefore, Bhatt does not teach or suggest restart equalizing depending upon a coefficient

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change state of the tap coefficient used *while the reception signal is equalized*, as in claims 6 and 7.

As discussed above, Bhatt teaches reinitiating a blind equalization process if the tap coefficients have not converged. Claims 6 and 7 require that the monitoring unit restart equalizing *depending upon a coefficient change state* of the tap coefficient used while the reception signal is equalized. Reinitiating equalizing based on non-convergence of tap coefficients does not teach or suggest restarting equalizing depending upon a *coefficient* change state of the tap coefficient, as required by claims 6 and 7. In deciding whether to reinitiate equalizing, Bhatt uses the general states of several tap coefficients, that is, whether or not they have converged. Bhatt does not restart equalizing depending upon a coefficient change state of the tap coefficient, as recited in claims 6 and 7.

Since every limitation of claim 6 and claim 7 is not taught by applicant admitted prior art, Bhatt, Ushirokawa, or any combination thereof, claims 6 and 7 are allowable over the cited references.

Furthermore, the prior art of record fails to provide any motivation to combine the applicant admitted prior art, Bhatt and Ushirokawa to arrive at the claimed invention as suggested by the Examiner. Specifically, Bhatt teaches that proper operation of an adaptive filter *requires two steps*, an initial adjustment of the coefficients close to their optimum values, then maintenance of the coefficients close to their optimum values (1:35-39). For the first step, Bhatt teaches a fast blind equalization process. For the second step, Bhatt teaches conventional adaptive equalization. In combining Bhatt with applicant admitted prior art and Ushirokawa to arrive at the claimed invention, the Examiner modifies applicant admitted prior art contrary to Bhatt's teaching. That is, the Examiner applies Bhatt's blind equalization first step to the equalized signal of applicant admitted prior art, which corresponds to Bhatt's second step. One of ordinary skill in the art would not be motivated to apply Bhatt to

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applicant admitted prior art in a way contrary to Bhatt's own teaching. Accordingly, the rejection of claims 6 and 7 is improper and should be withdrawn.

Claims 23 and 25 recite in part, "a tap coefficient monitoring unit which monitors a tap coefficient of said equalizing filter unit, and changes the tap arrangement of said equalizing filter unit so as to restart...equalizing steps...while said reception signal is equalized, depending upon a coefficient change state of the tap coefficient during the equalization of said reception signal." As discussed above with respect to claims 6 and 7, the reinitiating of the blind equalization process 200 at step 218 as taught by Bhatt is not performed *while the reception signal is equalized*. Therefore, Bhatt does not teach or suggest restart equalizing steps *while said reception signal is equalized*, as in claims 23 and 25. Also, Bhatt does not teach or suggest restart equalizing steps depending upon a *coefficient change state* of the tap coefficient, as in claims 23 and 25. Furthermore, the prior art of record fails to provide any motivation to combine the applicant admitted prior art, Bhatt and Ushirokawa to arrive at the claimed invention. Accordingly, claims 23 and 25 are allowable over the cited references.

Claims 24 and 26 recite in part, "a tap coefficient monitoring unit which performs an operation of monitoring a tap coefficient of said equalizing filter unit and changing the tap arrangement of said equalizing filter unit so as to restart...equalizing steps...while said reception signal is equalized, depending upon a coefficient change state of the tap coefficient during the equalization of said reception signal." As discussed above with respect to claims 6 and 7, the reinitiating of the blind equalization process 200 at step 218 as taught by Bhatt is not performed *while the reception signal is equalized*. Therefore, Bhatt does not teach or suggest restart equalizing steps *while said reception signal is equalized*, as in claims 24 and 26. Also, Bhatt does not teach or suggest restart equalizing steps depending upon a *coefficient change state* of the tap coefficient, as in claims 24 and 26. Furthermore, the prior art of record fails to provide any motivation to combine the applicant admitted prior art, Bhatt

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and Ushirokawa to arrive at the claimed invention. Accordingly, claims 24 and 26 are allowable over the cited references.

Claims 11-13 and 20-22 were allowed.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 33152.

Respectfully submitted,  
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